

Imperfection of Entropy Principles in the Implementation of Supply Chain Strategy Measures to Promote Goods in the Media

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Abstract- The system of relations between the consumer and the seller has many factors that shape the dynamics of the market of goods and services based on the supply chain strategy. Supply chains satisfy customers by striving for delivering the right products to the right place at the right time, at the right quality and at the right quantity within an increasingly faster pace and lower cost. Theories of social entropy consider the system of social relations from the standpoint of the equilibrium of systems and their disproportion. The equilibrium state of the market of goods and services is possible only in theory. Market failures in every way prevent the emergence of an equilibrium state. Promotion of goods in modern conditions is considered the norm. However, advertising is increasingly faced with negative reviews of consumers of goods and services in the media space. A large number of advertising destroys this system, on the one hand, and on the other, transforms the sphere of information content in the media.

Keywords- media, principles of entropy, supply chain strategy, social entropy, synergetic, concepts of society development.

1. Introduction

Supply chain (SC) design and planning seek to find a structural-process-parametrical form of a value-adding network and its operation in time subject to some goal criteria, e.g. costs minimization. The social process in the classical performance basically consists of certain actions performed by people. A labor or love, a sport game or battle to the various social processes and their inevitable based on various actions. But any action is connected with dynamic changes. Change is the mechanism by which actions are transformed into social processes. Human actions are a specific way of social existence and are very diverse. But for all the variety they have two invariant features. First, they are always focused on a specific goal, appropriate, and secondly, are inextricably linked with energy – its concentration, release, transformation, accumulation, consumption, consumption, etc. Energy is manifested in the ability to act and the possibility of action [1]. But since human action is the basis of social existence, to the extent that this being, like any other, is a transformation of energy [2]. To promote products in the network, multiple strategies and marketing tactics

are used. These phenomena fit into the framework of strict systems and they can be considered within the framework of objects of interaction and relationships, which allows us to consider this social superstructure as an open-type physical system. This system is influenced by the principles of entropy [3]. However, returning to the question of social entropy, it is interesting to note in this way the antientropic nature of social communities.

2. Methods

1. The method of abstraction - Theoretical-empirical method. This method allows in the process of performing analytical and design work to escape from the random, situational, from non-essential properties, relationships and relationships of the phenomenon under study, in our case, the formation of information in the media to influence consumers [4].
2. Method of alternatives - This method objectifies the procedures for choosing a method of solving a specific problem in SCs, because when using it, different alternatives, options for action, answer the question, options for solving the problem are put forward; then these options/alternatives are discussed (for example, by a group of experts and with the involvement of a wide range of practitioners) for the final choice of the optimal solution.
3. The method of analysis is a Theoretical and empirical method, the dismemberment of the whole object into its component parts (sides, features, properties or relations) for the purpose of their comprehensive consideration.
4. Methods of mutual influence analysis – This method improves the quality of work performed by analyzing the influence of various factors on the studied problem [5]. Consideration of the reasons for a particular distribution, its availability, volume or lack thereof in certain countries, for example in our case, will be reflected to form a complete picture of the phenomenon of reputation formation.
5. The method of analysis and systematization of data - This method involves the structuring of the materials obtained in the course of analytical actions,

followed by the unification of previously disparate concepts and judgments in qualitatively new information. Data analysis and systematization will be used in most project activities to improve the quality of work and in future studies.

6. Analysis method range of subproblem Method of analysis of the range of subproblem is to decompose the original problem into interdependent components, taken separately, the components of subproblem (as a rule, subject to hierarchical subordination) [7]. Then, all possible combinations of the components of the problem are compiled, for each of which a particular draft decision is drawn up.

7. The method of analysis of problems – Choosing the research method subproblem, we couldn't pass the method the main problems. This method is used to solve the problems of choice of alternatives by means of their multi-criteria rating [8]. The method allows to analyze the problem. In this case, the problem is presented in the form of hierarchically ordered: a) the main goal (the main criterion) of rating possible solutions, b) several groups (levels) of the same type of factors, one way or another affecting the rating, c) groups of possible solutions, d) a system of links indicating the mutual influence of factors and solutions.

3. Literature review

The very concept of entropy, depending on the specifics of a particular science receives different interpretations. In particular, in static physics, it expresses the uncertainty of the state of the studied system and represents the measure of the probability of the system being in this state [9]; in the theory of dynamic systems – the measure of chaotic behavior of the trajectories of the system; in the theory of information – the measure of uncertainty of the source of messages, consisting in the probability of the appearance of certain symbols in their transmission; in control theory – a measure of uncertainty of the state or behavior of the system under these conditions. In Cybernetics, the concepts of entropy and negentropy Express the degree of organization of the system [10]. Being fair to systems subject to statistical regularities, this measure requires great caution when applied to social systems. To understand the problems of social life, the most acceptable is the management interpretation of entropy. Due to the sharp increase in the importance of information communications in today's high-tech society, which is rightly called information, it is very important to understand the specifics of information entropy and in this way the role of the media. Information entropy is usually interpreted as uncertainty of information, information about some

information system, or as a lack of information about the state of the system [11]. Therefore, to refer to the identical related information about the state of the system began to use the term "negentropy", which is closely related to the flow of information in the system. Negentropy is a measure of the order, the order of the internal structure, the information present in a given system, and it should not be represented as an entropy with a negative sign. It should be borne in mind that in reality, both in natural and social, absolutely no entropic processes occur. Therefore, entropy flows and non-entropy processes should be considered in their dialectical interaction. And their fundamental difference is that entropy is a measure of the multiplicity of those States of the system, about staying in which the system should forget, and negentropy, which is a kind of clot of information, is a measure of the set of those States, about staying in which the system should remember. Such a feature is characteristic of different systems, but it is particularly important for the functioning of social systems [12]. This feature, which takes the nature of the pattern, makes it possible when it is taken into account in various spheres of human activity, primarily in management, to assess the specific possibilities of information and energy supply of the system and decide what can or cannot be done, what is advisable, what is risky, what is doubtful and what is necessary [13]. Any social activity should be carried out in such a way as to ensure a higher rate of energy reduction and, accordingly, an increase in the negentropy of social existence. In this context, it is indisputable that the emergence of life on our planet, the appearance of man and the action of his mind lead ultimately to the killing of entropy and increase negentropy. In his life man functions as an active social being with excess energy, which is used to transform nature. Social systems are open and can import energy in the process of interacting with the environment and thus avoid entropy [14]. They are able to not only survive, but to form a new, more stable state, modified in accordance with emerging conditions, and adapting to them, reaching of negentropy. In the 20-ies. XX P. Florensky considered the whole world around man as an arena of constant struggle between two principles – entropy, universal equalization, and ectropy (logos), embodying the intellectual forces that organize active human actions to improve life [15]. What is important when we talk about the media. Promotion of goods in the media, can be rightfully attributed to the wonders of the world, which capturing at some point in time a certain plane of information exchange systems do not pass, but only strengthen their positions over time. Even more actively and on a

large scale similar views defended N. Ah. Berdyaev [16]. He saw the anti-entropic orientation of human existence in the fact that his self-consciousness man "breaks beyond the boundaries of the natural world, breaks through all the phenomena of the natural world and is the Supreme center of existence." But along with the benefits of such a breakthrough, there are also serious dangers for humanity, which brings with them into our existence "mechanical, equalizing and devaluing civilization with its diabolical technique", generating "false existence, ghostly existence, inverted existence". If a technical civilization negates the creative principle in man, introniserunt it, as did Berdyaev, the culture, on the contrary, anti-entropic power of their values assures that "in the creation of a free and bold man is called to create a world of new and unprecedented, to continue the creation of God." In contrast to entropy, where there is a redistribution of energy through alignment, manifested in human activity "creative energy is energy growing, not redistributing [17]. The most important component of the anti-entropic orientation of social life is the specificity of consciousness as a distinctive feature of man. In reality, there is only one organ –the human brain with its extremely complex neural network that does not need external maintenance, which would lead to a decrease in the entropy of brain activity. This means that in the organization and structure of the brain, in the features of its functioning are the origins of the non-entropic nature of human consciousness, which is a special kind of mental activity associated with the storage, concentration, interpretation of information coming to the brain from the outside world and from the body itself. Another fundamental manifestation of the non-entropic essence of our consciousness is the symbolic code that allows a person to objectify his mental activity through knowledge, letters, numbers, musical notes, etc [18]. Inherent only in human existence adequately visible, readable, audible symbolism, having a non-entropic nature, objectified in science, poetry, drama, technology, technology, politics. The most concentrated embodiment of the anti-entropic essence of social existence is the active and purposeful human activity, focused on achieving goals, meeting various needs and mastering social experience.

4. Results and Discussion

SC design is typically related to structural SC formation, and SC planning is concerned with process deployment. SC design and planning with disruption risk considerations (such as man-made and natural disasters or strikes) became extremely important in the last decade with the increase in

complexity and the uncertainty of those networks. The main reasons and sources of increasing social entropy in modern society are [19]:

1. armed conflict;
2. natural and man-made disasters;
3. economic and social crises;
4. epidemics, diseases, increased mortality and population decline;
5. ethnic and religious conflicts;
6. commission of terrorist acts;
7. high crime rate.

In today's civilized world, everyone has long been aware of the role played by information and its flows. The nature of the goals is already a very important and serious issue. But still, you can take a closer look at the harmful effects of advertising, which we see every day. First of all, it is our subconscious. It becomes the purpose in the process of "publicity" of this or that information. This, of course, leads to negative consequences. Due to its biological nature, a person is susceptible to suggestion, imitation and contagion [20]. By itself, the activities of the media, which aims to inspire anything to society, is inhumane, because people can not control the impact directed at them and are powerless to such suggestions. One of the negative impacts is propaganda. For many years it has worked out a large number of techniques for manipulating public consciousness, which are really effective and allow you to influence the mass in a certain way [21]. At some point, the media "serves" information, which is often a lie. As a rule, such information is supplied from different sources and sinks into the subconscious of a person, is used at the time of making any important decision, and when the truth is known - the goal will already be achieved [22]. Thus, this method is quite effective. The method of associations involves careful selection and special arrangement of concepts that cause either positive or negative associations, which allows you to influence the perception of information [23]. Since the method is based on certain associations, it makes it easy to influence a person because of his habits and beliefs. Broadcasting, in a sense, is compulsory: the transmission can be listened to only when it is on the air, moreover, in the same order, the pace and rhythm that are set in the Studio [24]. What is important to note for the selection of the target audience. Certain programmes I listen for selected target audience. It is impossible to postpone listening for a convenient time, to do it faster or slower, in the chosen order, especially "view". These features of the radio are forced to carefully study the possibilities of the audience, make the program taking into account the

distribution of time, nature of classes, mental and physical condition of listeners in different time intervals [25]. Although it is possible to create a variety of radio channels, the listener in a certain period of time is able to perceive only one program, abandoning all the other, simultaneously going [26]. Therefore, it is important to have a strict, clearly designed for the audience program policy, with good implementation of which the audience of listeners will be maximum by SCS. As for modern television, it is represented today by a variety of streaming services. The usual analog broadcasting gradually goes into oblivion and it is replaced by a completely regulated instrument of influence on perception. People watching the television, think deeper, sharper feels a sense of joy or fear, his psyche can be to a greater extent of inhibition or excitation [27]. Depending on the physical condition, the human psyche is in an excited or inhibited state. The more a person is exhausted in a day, the greater the degree of fatigue of the nervous system [28]. And during the rest, along with the relaxation of the body, the nervous system relaxes. A great desire to communicate attracts people to their home addiction. Without feedback, a person is a receiver of ideas. Enjoying the pictures of murder, violence, vulgarity, alone, the consumer does not feel reproaches from the outside, being in a state of excitement. Unconsciously, in a state of hypnosis, a person voluntarily transmits television control of their mental processes. Interacting in this way with the whole world through the TV, the consumer finds for himself as if something valuable, including the ideal of his existence [29]. To his ideal man fully trust, implicitly believes in his words and actions, and is beginning to follow his principles. To interest a person and draw his attention to the screen, several techniques are used based on the supply chain strategy:

- Creation of a bright video series in order to form a certain light sensation, and the stronger it is, the more attention is riveted to it;
- Novelty and singularity also attracts people to the screen, because according to the law of movement and aspiration of mental processes monotony is disgusting;
- show, close-up, the person's face, looking at the human face, the viewer immediately imbued with sympathy or disgust.

For a quick introduction to a state similar to hypnosis, a person's attention is briefly stopped at one point, a picture, a stationary object. For example, the clock before the program "Time".

The effects of a quick flash, a loud sound, after which a sharp excitation of the nervous system is quickly replaced by inhibition. This method can be seen in a variety of advertising and software screensavers, as well as in television and movies.

The interruption of the films at the most tragic point encourages viewers to look forward to the next series, which makes the person interested and, consequently, open to a new session of suggestion. The principles of entropy in this example are revealed in the direction of the dynamic formation of the system. Television shooting and subsequent skillful editing can create an ideal event, an ideal person, an ideal state, and Vice versa, i.e. you can turn the truth into a lie, a lie into the truth. These methods of human exposure are widely used around the world. Children are a very important issue when considering the impact of television on the masses. Children because of their lack of full awareness of the boundaries of reality, all the events that occur in front of their eyes, perceive as real. Murder and violence do not cause them to feel fear or disgust, because they are, as a result of addiction to television broadcasts, for them natural and real. Against the background of admiration for the capabilities of a modern computer, it is also important to note the alertness of the population, and in some cases - a direct condemnation. Internet in the Russian mass consciousness appears, first of all, a giant repository of information. Some computer games provoke, according to the authors, aggressive behavior, the glorification of war and violence, right-wing extremism. As the negative consequences of computer games indicate the narrowing of the range of interests of the teenager, the desire to create their own world, escape from reality. With the development of virtual reality systems technologies, the number of people who are interested in this phenomenon is growing. "Communication" with virtual reality for most people is common today at the level of virtual computer games.

5. Conclusion

In this paper we show that one efficient way to develop differentiated supply chain strategies is to combine different supply and delivery methods into supply chain solutions. Virtual reality is stronger than a video game in the study of the problems of suggestion, and fall into dependence on it is much easier due to the fact that the real person begins to identify with the protagonist or antagonist in the video narrative with interactive. The creation of virtual personalities is age-related and associated with self-determination. In adolescence are becoming

more frequent crises, uncertainty, when "I" is a teenager blurred. Advertising is now a means of informing about the new brand, consumer properties of goods, etc. Advertising is increasingly interfering in a person's life, controlling them on a conscious and unconscious level. At the same time, it imposes on consumers a system of certain standards, a point of reference of life values, ideological ideas and ideas. There is no clear statistics on how the percentage of negative advertising has increased. Many studies show that negative advertising is well remembered, even if it is not particularly liked by the audience. According to critics, TV advertising, ensures the passivity of perception. From their point of view, the combination of text, images, music and home environment promotes relaxation, reduces mental activity and critical perception of information. Very often in modern domestic advertising appear things about which the laws of morality do not speak publicly. Repeated repetition of such scenes creates an oppressed mental state of viewers. Especially great is the impact of advertising on the child's defenseless psyche. At the same time, children, in comparison with adults, are not able to effectively oppose such an impact to their own attitudes, views, moral criteria. Huge volume of information flows are processed daily at the subconscious level. But who guarantees us their truthfulness, justification? Dozens, hundreds of "pounds" of information, not having proper treatment, provoke ethnic conflicts, corruption of minors on sexual stimuli. A person under such influence is more subject to psychological influence. The influence of the media on young people is great, both in positive and negative aspects. The media determine a young person's life orientation, his actions, tastes and interests, attitude and goals in life.

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References

- [1] ALHUJAILY, A., YU, H., ZHANG, X. and MA, F. *Highly efficient and sustainable spent mushroom waste adsorbent based on surfactant modification for the removal of toxic dyes*. International Journal of Environmental Research and Public Health, 15(7), 2018.
- [2] BABU, T.A. and KUMAR, P.R. *Comparison of different feature extraction methods for the analysis of uterine magnetomyography signals to predict term labor*. International Journal of Engineering and Technology(UAE), 7(3), pp. 1-7, 2018.
- [3] BACZYŃSKA, E., LORENC, M.W. and KAŻMIERCZAK, U. *The Landscape Attractiveness of Abandoned Quarries*. *Geoheritage*, 10(2), pp. 271-285, 2018.
- [4] BITBOL, A. *Inferring interaction partners from protein sequences using mutual information*. *PLoS Computational Biology*, 14(11), 2018.
- [5] FERDINAND, V., KIRBY, S. and SMITH, K., *The cognitive roots of regularization in language*. *Cognition*, 184, pp. 53-68, 2019.
- [6] Maloletko, A., Volkov, D., Vishnyakova, V., Shatsky, A. *The effect of supply chain and consumer preferences on the formation of economic model*. International Journal of Supply Chain Management. Volume 7, Issue 5, Pages 684-689, October 2018.
- [7] Volkov D.V., Akhtian A.G., Dgibabov M.R., Semennikova A.I., Kusina O.A. *The effective use of human capital through the reduction of working time*. International Journal of Environmental and Science Education. T. 12. № 1. C. 35-46, 2017.
- [8] ALLADIO, E., MARTYNA, A., SALOMONE, A., PIRRO, V., VINCENTI, M. and ZADORA, G. *Direct and indirect alcohol biomarkers data collected in hair samples - multivariate data analysis and likelihood ratio interpretation perspectives*. *Data in Brief*, 12, pp. 1-8, 2017.
- [9] ALL, A.A., ELIASSON, J. and WARG, J. *Measuring the Socio-economic Benefits of Train Timetables Application to Commuter Train Services in Stockholm*, *Transportation Research Procedia* 2017, pp. 849-856, 2017.
- [10] AKSENOV, A. and MALYSHEVA, A. *Variation principle in calculating the flow of a two-phase mixture in the pipes of the cooling systems in high-rise buildings*, *E3S Web of Conferences* 2018.
- [11] BISI, F., GAGLIARDI, A., CREMONESI, G., COLOMBO, R., MAZZAMUTO, M.V., WAUTERS, L.A., PREATONI, D.G. and MARTINOLI, A. *Distribution of Wildlife and Illegal Human Activities in the Lampi Marine National Park (Myanmar)*. *Environmental Conservation*, 46(2), pp. 163-170, 2019.
- [12] DING, G., DING, Y. and WENG, P. *Spatial differences in the influence of science popularization resources development on the energy consumption carbon footprint in provincial regions of China*. *Energy, Sustainability and Society*, 8(1), 2018.
- [13] FENG, Y., XINGLEI, Z., CHENGZHI, X., BEI, T. and CHENGLIN, L. *Improvement on Entropy Weighting Model in Groundwater*

- Quality Evaluation*, IOP Conference Series: Earth and Environmental Science 2018.
- [14] KONG, X., ZENG, X., CHEN, C., FAN, Y., HUANG, G., LI, Y. and WANG, C. *Development of a maximum entropy-Archimedean copula-based bayesian network method for streamflow frequency analysis-A case study of the Kaidu River Basin, China*. Water (Switzerland), 11(1), 2018.
- [15] Oganyan, V.A., Vinogradova, M.V., Volkov, D.V. *Internet piracy and vulnerability of digital content*. European Research Studies Journal. Volume 21, Issue 4, Pages 735-743, 2018.
- [16] Volkov D. V. *Analysis of the structure of the modern monetary system*. Economy: yesterday, today, tomorrow. Vol.6. No. 10A. P. 161-170, 2016.
- [17] Vinogradova M.V., Kulyamina O.S., Vishnyakova V.A., Oganyan V.A. *Bankruptcy of individuals: Russian and foreign experience*. Journal of Legal, Ethical and Regulatory Issues. Volume 21, Issue 4, 10p, 2018.
- [18] AIKHUELE, D.O. and TURAN, F.M. *An exponential-related function for decision-making in engineering and management*. Open Engineering, 7(1), pp. 153-160, 2017.
- [19] AJANI, P.A., MCGINTY, N., FINKEL, Z.V. and IRWIN, A.J. *Phytoplankton realized Niches Track changing oceanic conditions at a long-term coastal station off Sydney Australia*. Frontiers in Marine Science, 5(AUG), 2018.
- [20] ALCALA-CANTO, Y., FIGUEROA-CASTILLO, J.A., IBARRA-VELARDE, F., VERA-MONTENEGRO, Y., CERVANTES-VALENCIA, M.E., SALEM, A.Z.M. and CUÉLLAR-ORDAZ, J.A. *Development of the first georeferenced map of Rhipicephalus (Boophilus) spp. in Mexico from 1970 to date and prediction of its spatial distribution*. Geospatial Health, 13(1), pp. 110-117, 2018.
- [21] AKAMATSU, Y., GOTO, M., INUI, R., YAMANAKA, H., KOMURO, T. and KONO, Y. *Monitoring of Myocastor coypus using environmental DNA and estimation of the potential habitat in yamaguchi prefecture*. Ecology and Civil Engineering, 21(1), pp. 1-8, 2018.
- [22] AL-KAZRAGI, M.A., AL-HEETIMI, D.T.A. and HIMDAN, T.A. *Adsorption of 4-chlorophenol from aqueous solution onto iraqi bauxite and surfactant-modified iraqi bauxite: Equilibrium, kinetic, and thermodynamic studies*. Oriental Journal of Chemistry, 33(6), pp. 2983-2991, 2017.
- [23] BAI, L., WANG, H., HUANG, N., DU, Q. and HUANG, Y. *An environmental management maturity model of construction programs using the AHP-entropy approach*. International Journal of Environmental Research and Public Health, 15(7), 2018.
- [24] BAI, X., WANG, Y., JIN, J., QI, X. and WU, C. *Precondition cloud and maximum entropy principle coupling model-based approach for the comprehensive assessment of drought risk*. Sustainability (Switzerland), 10(9), 2018.
- [25] DEWEY, R.M., SLAVIN, J.A., RAINES, J.M., BAKER, D.N. and LAWRENCE, D.J. *Energetic Electron Acceleration and Injection During Dipolarization Events in Mercury's Magnetotail*. Journal of Geophysical Research: Space Physics, 122(12), pp. 12170-12188, 2017.
- [26] FERNANDEZ-DE-COSSIO-DIAZ, J. and MULET, R. *Maximum entropy and population heterogeneity in continuous cell cultures*. PLoS Computational Biology, 15(2), 2019.
- [27] Volkov, D.V., Maloletko, A.N., Kaurova, O.V. *Formation of bounded consumers' rationality based on micro-segmentation*. European Research Studies Journal. Volume 21, Issue 4, Pages 754-762, 2018.
- [28] DINIZ, V.E.M.G., LUVIZOTTO JÚNIOR, E., DE SOUZA, P.A. and SILVA, P.A. *Gauging flow velocity in 2 positions for discharge calculation in pipes*. Revista Brasileira de Recursos Hídricos, 23, 2018.
- [29] Babakayev, S.V., Vinogradova, M.V., Vishnyakova, V.A., Zanina, K.D., Ermilova, A.N. *The influence of personal characteristics on the formation of consumer preferences for goods and services*. International Journal of Management and Business Research. Volume 8, Issue 1, Pages 108-119, 2018.
- [30] Kuljamina, O.S., Leonova, V.P., Vishnyakova, V.A. *Unconditional Demand based on Information Networks*. European Research Studies Journal. Volume 21, Issue 4, Pages 726-734, 2018.
- [31] Volkov, D.V., Vinogradova, M.V., Kulyamina, O.S. *The synthesis of modern consumer preferences with the use of social networks in supply chain*. International Journal of Supply Chain Management. Volume 7, Issue 5, Pages 851-857, 2018.